

**REMARKS**

The Office Action of May 25, 2006, has been received and reviewed.

Claims 1-20 are currently pending in the above-referenced application. Claims 10-20 have been withdrawn from consideration pursuant to a restriction requirement, and have been canceled without prejudice or disclaimer. Claims 1-9, which have been considered, stand rejected.

Reconsideration of the above-referenced application is respectfully requested.

**Rejections under 35 U.S.C. § 102**

Claims 1-9 have been rejected under 35 U.S.C. § 102(b).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single reference which qualifies as prior art under 35 U.S.C. § 102. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Leyden

Claims 1-9 have been rejected under 35 U.S.C. § 102(b) for being drawn to subject matter that is allegedly anticipated by the subject matter described in U.S. Patent 5,143,663 to Leyden et al. (hereinafter "Leyden").

Leyden describes, among other things, a dual chamber resin vat that facilitates the integration of cleaning and post-curing processes into part building. Col. 20, lines 29-33. The dual chamber resin vat includes a first chamber 100, a second chamber 101, and a partition 102 separating the first chamber 100 from the second chamber 101. FIGs. 4a-4d; col. 20, lines 34-36. Part building occurs in the first chamber 100. *See, e.g.*, FIG. 4b. When a part 109 is being built, an ultrasonic transducer 110 in the first chamber 100 removes excess resin 111 from just-fabricated portions of the partially or fully fabricated part 109. FIG. 4c; col. 22, lines 23-33.

Leyden includes no express or inherent description that the ultrasonic transducer 110 is "configured to facilitate removal of gas bubbles from [a] volume of liquid material," as would be

required for the disclosure of Leyden to anticipate the “bubble elimination system” of independent claim 1. Therefore, the disclosure of Leyden does not anticipate each and every element of independent claim 1, as would be required to maintain the 35 U.S.C. § 102(b) rejection of independent claim 1.

Claims 2-9 are each allowable, among other reasons, for depending directly or indirectly from independent claim 1, which is allowable.

Claim 8 is further allowable since Leyden lacks any express or inherent description that the apparatus described therein includes a negative pressure source.

Claim 9, which depends from claim 8, is also allowable because Leyden does not expressly or inherently describe that the apparatus thereof includes a negative pressure source “configured to apply negative pressure sufficient for removing gas bubbles at or near [a] surface” of a volume of liquid material.

#### Hirano

Claim 1 also stands rejected under 35 U.S.C. § 102(b) for being drawn to subject matter that is purportedly anticipated by that described in U.S. Patent 5,089,184 to Hirano et al. (hereinafter “Hirano”).

The description of Hirano relates to the use of conventional stereolithography apparatus in such a way as to prevent the formation of bubbles or to facilitate the removal of bubbles from undesired locations. Among other things, Hirano teaches that small, integral movements (having a distance P) of a fabrication platform may be effected by making large rapid movements (of distance P + l) in the desired direction, then almost-as-large, rapid movements (of distance l) in the opposite direction, with the overall net movement having the desired integral distance (P). Col. 5, lines 22-38; FIG. 1; col. 5, line 64, to col. 6, line 11; FIG. 4. It is asserted by Hirano that these large, rapid movements facilitate uniform material flow that “removes” bubbles. *See, e.g.*, col. 6, lines 18-20.

The methods of Hirano apparently rely completely upon the features of conventional apparatus. Hirano, therefore, does not expressly or inherently describe “a bubble elimination

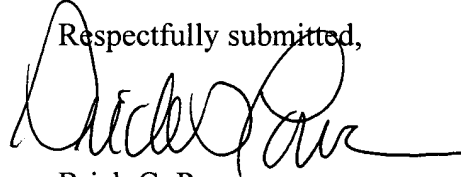
system associated with [a] fabrication chamber . . .,” as would be required to maintain the 35 U.S.C. § 102(b) rejection of independent claim 1.

It is respectfully requested that the 35 U.S.C. § 102(b) rejections of claims 1-9 be withdrawn, and that each of these claims be allowed.

**CONCLUSION**

It is respectfully submitted that each of claims 1-9 is allowable. An early notice of the allowability of each of these claims is respectfully solicited, as is an indication that the above-referenced application has been passed for issuance. If any issues preventing allowance of the above-referenced application remain which might be resolved by way of a telephone conference, the Office is kindly invited to contact the undersigned attorney.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brick G. Power", written over the typed name.

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Date: September 25, 2006

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